NC/VD/2020-21/W6-HD-C1

Date: 02-06-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
(Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.)

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Assistant Executive Engineer
Project Division
Yelahanka Zone
BBMP Bangalore - 92

PHYSICAL TESTS ON CEMENT

Grade : 53,
Type : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 12269-1987
1	Initial setting time	**159 min**	Shall not be less than 30 min
2	Final setting time	**275 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.88 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.81 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.46 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/YD/2020-21/W6-HD-PCC1 **Date: 02-06-2020**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Asst. Executive Engineer Project Division Yelahanka BBMP, Bangalore 92

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	58.35	0 -20	30- 70
10mm	25.10	0 -5	10- 35
4.75mm	3.65	-----	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	98.65	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	84.10	60-95	75-100	85-100	
01.18	70.25	30-70	55-90	75-100	
600.mic	43.70	15-34	35-59	60-79	
300.mic	26.85	5-20	8-30	12-40	
150.mic	8.30	0-10	0-10	0-10	

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NC/YD/2020-21/W6-HD-C2 Date: 11-06-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

PHYSICAL TESTS ON CEMENT

Grade* : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	161 min	Shall not be less than 30 min
2	Final setting time	265 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	1.94 %	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	1.89 mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.64 N/Sq mm	Shall not be less than 27 N/Sqmm

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NC/YD/2020-21/W6-HD-FA1 Date: 11-06-2020

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Sub Division BBMP Bangalore-92

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**95.65**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**84.30**	60-95	75-100	85-100	
01.18	**59.10**	30-70	55-90	75-100	
600. mic	**46.95**	15.34	35-59	60-79	
300.mic	**11.40**	5-20	8-30	12-40	
150.mic	**8.25**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.19 %**	-----
2	Silt Content	----	**0.64 %**	Not more than 8%
3	Specific Gravity	----	**2.60**	-------

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NC/YD/2020-21/W6-HD-CA1

Date: 11-06-2020

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.
{Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

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Project Division
Yelahanka Zone
BBMP, Bangalore-92

Table - 1.1: SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	98.40	85-100	90 - 100
10 mm	52.05	0 - 20	25 - 55
4.75 mm	7.80	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	23.74 %	Not to exceed 25 %
2.	Crushing value	28.14 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/YD/2020-21/W6-HD-W1

Date: 22-06-2020

TEST REPORT ON WET MIX MACADAM MIX (GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore 92.

1. Gradation Test:

TABLE.I

TEST RESULTS

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00		
45.00	100.00	100
26.50	96.85	95-100
22.40	---	-
11.20	72.05	60-80
4.75	48.60	40-60
2.36	34.25	25-40
0.600	19.40	15-30
0.075	13.70	8-22
	3.25	0-5

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Date: 22-06-2020

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.91 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**29.46 %**	Not more than 35.0 %
3.	Water absorption, %	**0.44 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

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NC/YD/2020-21/W6-HD-CBI

Date: 03-07-2020

I. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
(*Project**: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.)
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: P .Hemanth, Bangalore.

Assistant Executive Engineer
Project Division
Yelahanka Zone
BBMP Bangalore - 92

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-06-20	03-07-20	07	22500	375	16.67	17.04
	002	"	"	"	"	380	16.89	
	003	"	"	"	"	395	17.56	

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NC/YD/2020-21/W6-HD-CB1A

Date: 24-07-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
(Project*: Providing and laying UGD pipeline and Construction of Man Holes at Hedgenagara in Ward No.06 Byatarayanapura Sub Division.)

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: P .Hemanth, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Asst. Executive Engineer
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Yelahanka Zone
BBMP, Bangalore-92

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-06-20	24-07-20	28	22500	490	21.78	22.15
	002	"	"	"	"	505	22.44	
	003	"	"	"	"	500	22.22	

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